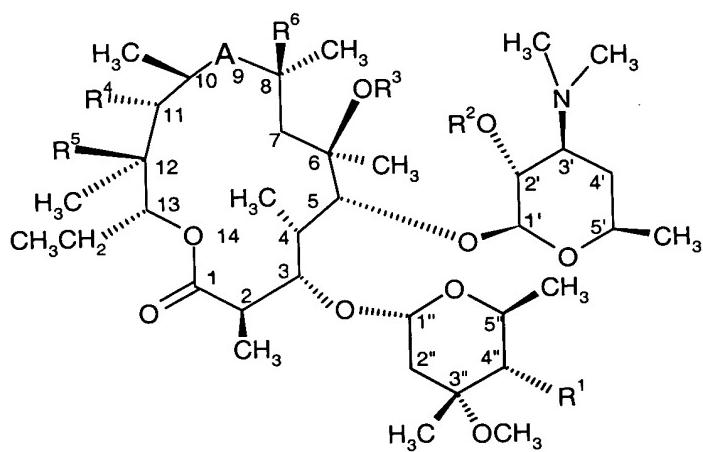


Amendments to the claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original): A compound of formula (I)



(I)

wherein

A is a bivalent radical selected from -C(O)-, -C(O)NH-, -NHC(O)-, -N(R⁷)-CH₂-,-CH₂-N(R⁷)-, -CH(NR⁸R⁹)- and -C(=NR¹⁰)-;

R¹ is -OC(O)(CH₂)_dXR¹¹;

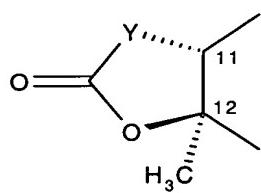
R² is hydrogen or a hydroxyl protecting group;

R³ is hydrogen, C₁-4alkyl, or C₃-6alkenyl optionally substituted by 9 to 10 membered fused bicyclic heteroaryl;

R⁴ is hydroxy, C₃-6alkenyloxy optionally substituted by 9 to 10 membered fused bicyclic heteroaryl, or C₁-6alkoxy optionally substituted by C₁-6alkoxy or -O(CH₂)_eNR⁷R¹²,

R⁵ is hydroxy, or

R⁴ and R⁵ taken together with the intervening atoms form a cyclic group having the following structure:



wherein Y is a bivalent radical selected from -CH₂- , -CH(CN)-, -O-, -N(R¹³)- and -CH(SR¹³)-;

R⁶ is hydrogen or fluorine;

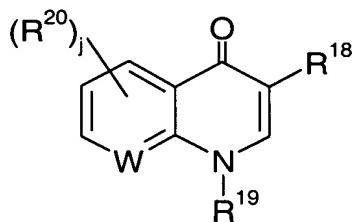
R⁷ is hydrogen or C₁-6alkyl;

R⁸ and R⁹ are each independently hydrogen, C₁-6alkyl, -C(=NR¹⁰)NR¹⁴R¹⁵ or -C(O)R¹⁴, or

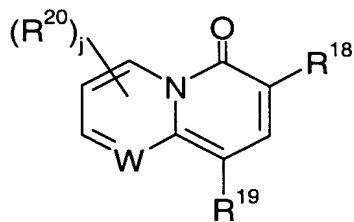
R⁸ and R⁹ together form =CH(CR¹⁴R¹⁵)_jaryl, =CH(CR¹⁴R¹⁵)_jheterocyclyl, =CR¹⁴R¹⁵ or =C(R¹⁴)C(O)OR¹⁴, wherein the alkyl, aryl and heterocyclyl groups are optionally substituted by up to three groups independently selected from R¹⁶;

R¹⁰ is -OR¹⁷, C₁-6alkyl, -(CH₂)_jaryl, -(CH₂)_jheterocyclyl or -(CH₂)_jO(CH₂)_iOR⁷, wherein each R¹⁰ group is optionally substituted by up to three groups independently selected from R¹⁶;

R¹¹ is a heterocyclic group having the following structure:



or



R¹² is hydrogen or C₁-6alkyl;

R¹³ is hydrogen or C₁₋₄alkyl optionally substituted by a group selected from optionally substituted phenyl, optionally substituted 5 or 6 membered heteroaryl and optionally substituted 9 to 10 membered fused bicyclic heteroaryl;

R¹⁴ and R¹⁵ are each independently hydrogen or C₁₋₆alkyl;

R¹⁶ is halogen, cyano, nitro, trifluoromethyl, azido, -C(O)R²¹, -C(O)OR²¹, -OC(O)R²¹, -OC(O)OR²¹, -NR²²C(O)R²³, -C(O)NR²²R²³, -NR²²R²³, hydroxy, C₁₋₆alkyl, -S(O)_kC₁₋₆alkyl, C₁₋₆alkoxy, -(CH₂)_maryl or -(CH₂)_mheteroaryl, wherein the alkoxy group is optionally substituted by up to three groups independently selected from -NR¹⁴R¹⁵, halogen and -OR¹⁴, and the aryl and heteroaryl groups are optionally substituted by up to five groups independently selected from halogen, cyano, nitro, trifluoromethyl, azido, -C(O)R²⁴, -C(O)OR²⁴, -OC(O)OR²⁴, -NR²⁵C(O)R²⁶, -C(O)NR²⁵R²⁶, -NR²⁵R²⁶, hydroxy, C₁₋₆alkyl and C₁₋₆alkoxy;

R¹⁷ is hydrogen, C₁₋₆alkyl, C₃₋₇cycloalkyl, C₃₋₆alkenyl or a 5 or 6 membered heterocyclic group, wherein the alkyl, cycloalkyl, alkenyl and heterocyclic groups are optionally substituted by up to three substituents independently selected from optionally substituted 5 or 6 membered heterocyclic group, optionally substituted 5 or 6 membered heteroaryl, -OR²⁷, -S(O)_nR²⁷, -NR²⁷R²⁸, -CONR²⁷R²⁸, halogen and cyano;

R¹⁸ is hydrogen, -C(O)OR²⁹, -C(O)NHR²⁹, -C(O)CH₂NO₂ or -C(O)CH₂SO₂R⁷;

R¹⁹ is hydrogen, C₁₋₄alkyl optionally substituted by hydroxy or C₁₋₄alkoxy, C₃₋₇cycloalkyl, or optionally substituted phenyl or benzyl;

R²⁰ is halogen, C₁₋₄alkyl, C₁₋₄thioalkyl, C₁₋₄alkoxy, -NH₂, -NH(C₁₋₄alkyl) or -N(C₁₋₄alkyl)₂;

R²¹ is hydrogen, C₁₋₁₀alkyl, -(CH₂)_paryl or -(CH₂)_pheteroaryl;

R²² and R²³ are each independently hydrogen, -OR¹⁴, C₁₋₆alkyl, -(CH₂)_qaryl or -(CH₂)_qheterocyclyl;

R²⁴ is hydrogen, C₁₋₁₀alkyl, -(CH₂)_raryl or -(CH₂)_rheteroaryl;

R²⁵ and R²⁶ are each independently hydrogen, -OR¹⁴, C₁₋₆alkyl, -(CH₂)_saryl or -(CH₂)_sheterocyclyl;

R²⁷ and R²⁸ are each independently hydrogen, C₁₋₄alkyl or C₁₋₄alkoxyC₁₋₄alkyl;

R²⁹ is hydrogen,

C₁₋₆alkyl optionally substituted by up to three groups independently selected from halogen, cyano, C₁₋₄alkoxy optionally substituted by phenyl or C₁₋

4alkoxy, -C(O)C₁₋₆alkyl, -C(O)OC₁₋₆alkyl, -OC(O)C₁₋₆alkyl, -OC(O)OC₁₋₆alkyl, -C(O)NR³²R³³, -NR³²R³³ and phenyl optionally substituted by nitro or -C(O)OC₁₋₆alkyl,
-(CH₂)_wC₃₋₇cycloalkyl,
-(CH₂)_wheterocyclyl,
-(CH₂)_wheteroaryl,
-(CH₂)_waryl,
C₃₋₆alkenyl, or
C₃₋₆alkynyl;

R³⁰ is hydrogen, C₁₋₄alkyl, C₃₋₇cycloalkyl, optionally substituted phenyl or benzyl, acetyl or benzoyl;

R³¹ is hydrogen or R²⁰, or R³¹ and R¹⁹ are linked to form the bivalent radical -O(CH₂)₂- or -(CH₂)_t-;

R³² and R³³ are each independently hydrogen or C₁₋₆alkyl optionally substituted by phenyl or -C(O)OC₁₋₆alkyl, or

R³² and R³³, together with the nitrogen atom to which they are bound, form a 5 or 6 membered heterocyclic group optionally containing one additional heteroatom selected from oxygen, nitrogen and sulfur;

X is -U(CH₂)_vB-;

U is -N(R³⁰)- and B is -O- or -S(O)_z, or

U is -O- and B is -N(R³⁰)- or -O-;

W is -C(R³¹)- or a nitrogen atom;

d is 0 or an integer from 1 to 5;

e is an integer from 2 to 4;

f, g, h, m, p, q, r and s are each independently integers from 0 to 4;

i is an integer from 1 to 6;

j, k, n and z are each independently integers from 0 to 2;

t is 2 or 3;

v is an integer from 1 to 8;

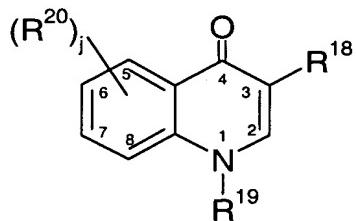
or a pharmaceutically acceptable derivative thereof.

2. (Original): A compound according to claim 1 wherein A is -C(O)- or -N(R⁷)-CH₂-.

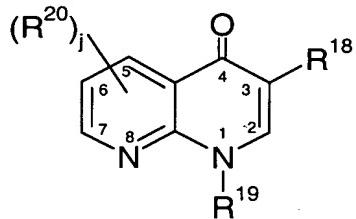
3. (Currently amended): A compound according to claim 1 or ~~claim 2~~
wherein d is 2.

4. (Currently amended): A compound according to claim 1 ~~any one of the preceding claims~~ wherein v is 2.

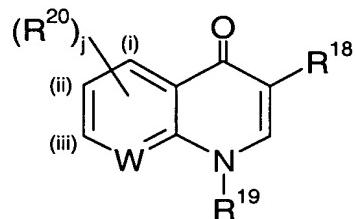
5. (Currently amended): A compound according to claim 1 ~~any one of the preceding claims~~ wherein R¹¹ is a heterocyclic group of the following formula:



or



wherein the heterocyclic is linked in the 6 or 7 position and j, R¹⁸, R¹⁹ and R²⁰ are as defined in claim 1, or a heterocyclic group of the following formula:



wherein the heterocyclic is linked in the (ii) or (iii) position, W is -C(R³¹)- and R³¹ and R¹⁹ are linked to form the bivalent radical -(CH₂)_t- as defined in claim 1, and j, R¹⁸, R¹⁹ and R²⁰ are as defined in claim 1.

6. (Original): A compound according to claim 1 as defined in any one of Examples 1 to 87, or a pharmaceutically acceptable derivative thereof.

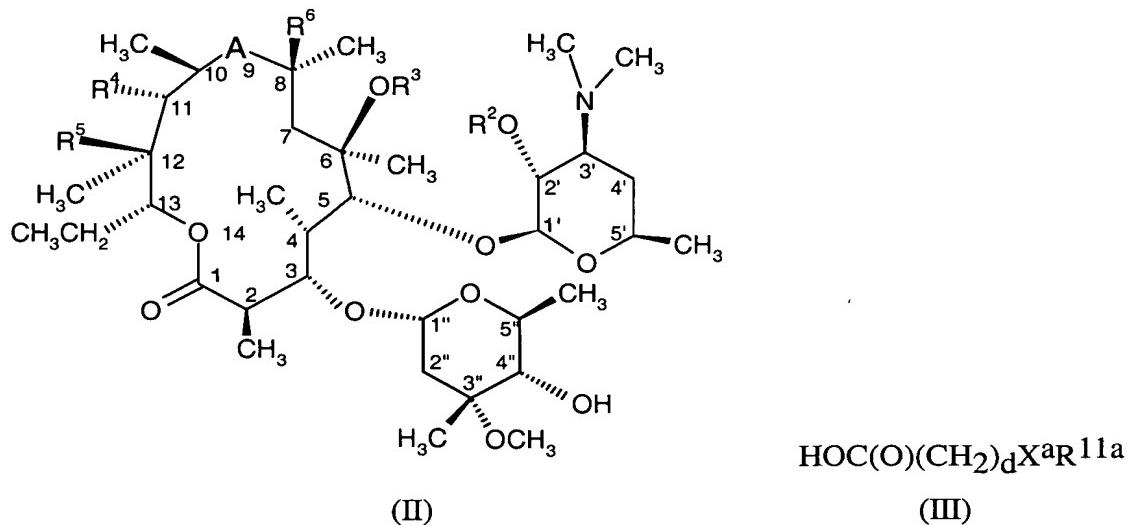
7. (Original): A compound selected from:

4"-O-{3-[2-(3-carboxy-1-ethyl-4-oxo-1,4-dihydro-6-quinolinylsulfanyl)ethylamino]propionyl}-6-O-methyl-erythromycin A;
4"-O-{3-[2-(3-carboxy-1-ethyl-4-oxo-1,4-dihydro-6-quinolinylsulfanyl)ethylamino]propionyl}-6-O-methyl-11-desoxy-11-(R)-amino-erythromycin A 11,12-carbamate;
4"-O-{3-[2-(3-carboxy-1-ethyl-4-oxo-1,4-dihydro-6-quinolinysulfanyl)ethylamino]propionyl}-azithromycin 11,12-carbonate;
4"-O-{3-[2-(6-carboxy-7-oxo-2,3-dihydro-1H,7H-pyrido[3,2,1-ij]quinolin-9-yloxy)ethylamino]propionyl}-6-O-methyl-erythromycin A;
4"-O-{3-[2-(3-carboxy-1-ethyl-4-oxo-1,4-dihydro-7-quinolinyloxy)ethylamino]propionyl}-6-O-methyl-erythromycin A;
4"-O-{3-[2-(3-carboxy-7-chloro-1-cyclopropyl-4-oxo-1,4-dihydro-6-quinolinylamino)ethoxy]propionyl}-azithromycin;
4"-O-{3-[2-(3-carboxy-1-cyclopropyl-4-oxo-1,4-dihydro-6-quinolinylamino)ethoxy]propionyl}-azithromycin;
4"-O-{3-[2-(3-carboxy-7-chloro-1-cyclopropyl-4-oxo-1,4-dihydro-6-quinolinylamino)ethoxy]propionyl}-11-O-methyl-azithromycin;
4"-O-{3-[2-(3-carboxy-7-chloro-1-cyclopropyl-4-oxo-1,4-dihydro-6-quinolinylamino)ethoxy]propionyl}-azithromycin; and
4"-O-{3-[2-(3-carboxy-1-cyclopropyl-4-oxo-1,4-dihydro-quinolin-6-yloxy)-ethoxy]propionyl}-azithromycin;
4"-O-{3-[2-(3-carboxy-7-chloro-1-cyclopropyl-4-oxo-1,4-dihydro-6-quinolinylamino)ethoxy]propionyl}-azithromycin 11,12-cyclic carbonate;
4"-O-{3-[2-(3-carboxy-1-cyclopropyl-4-oxo-1,4-dihydro-6-quinolinylamino)ethoxy]propionyl}-11-O-methyl-azithromycin;
4"-O-{3-[2-(3-carboxy-7-chloro-1-cyclopropyl-4-oxo-1,4-dihydro-quinolin-6-yloxy)-ethoxy]propionyl}-azithromycin 11,12-carbonate;

4"-*O*-{3-[2-(3-carboxy-7-chloro-1-cyclopropyl-4-oxo-1,4-dihydro-6-quinolinylamino)ethoxy]propionyl}-6-*O*-methyl-11-desoxy-11-(R)-amino-erythromycin A 11,12-carbamate;
4"-*O*-{3-[2-(3-carboxy-1-cyclopropyl-4-oxo-1,4-dihydro-quinolin-6-yloxy)-ethoxy]-propionyl}-11-*O*-methyl-azithromycin;
4"-*O*-{3-[2-(3-carboxy-7-chloro-1-cyclopropyl-4-oxo-1,4-dihydro-quinolin-6-yloxy)ethoxy]propionyl}-6-*O*-methyl-erythromycin A;
4"-*O*-{3-[2-(3-carboxy-1-cyclopropyl-6-fluoro-8-methoxy-4-oxo-1,4-dihydro-quinolin-7-ylamino)ethoxy]propionyl}-azithromycin;
or a pharmaceutically acceptable derivative thereof.

8. (Original): A process for the preparation of a compound as claimed in claim 1 which comprises:

a) reacting a compound of formula (II)

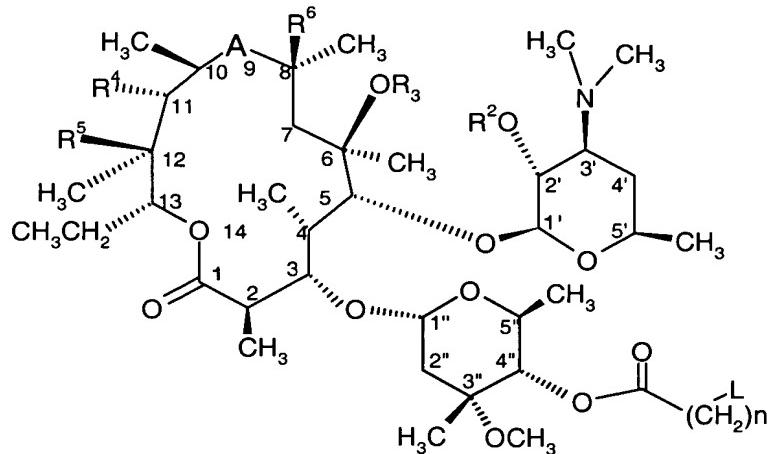


with a suitable activated derivative of the acid (III), wherein X^a and R^{11a} are X and R^{11} as defined in claim 1 or groups convertible to X and R^{11} , to produce a compound of formula (I) wherein d is an integer from 1 to 5;

b) reacting a compound of formula (II), in which the 4" hydroxy is suitably activated, with a compound of formula X^aR^{11a}(IV), wherein R^{11a} is R¹¹ as defined in claim 1.

or a group convertible to R^{11} and X^a is $-U(CH_2)_vB-$ or a group convertible to $-U(CH_2)_vB-$, in which U is a group selected from selected from $-N(R^{30})-$ and $-O-$, to produce a compound of formula (I) wherein d is 0 and U is a group selected from $-N(R^{30})-$ and $-O-$;

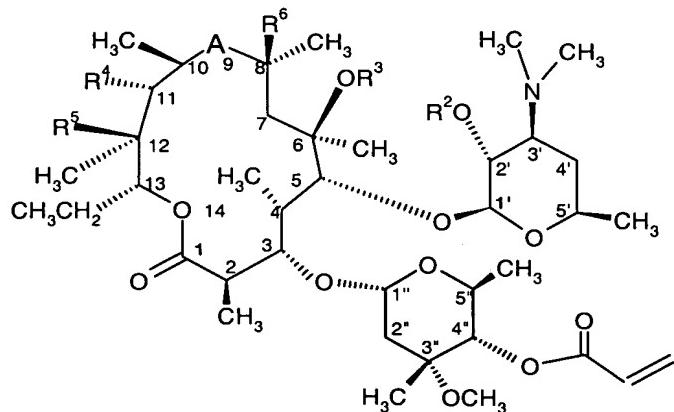
c) reacting a compound of formula (V)



(V)

with a compound of formula X^aR^{11a} (IV), wherein R^{11a} is R^{11} as defined in claim 1 or a group convertible to R^{11} and X^a is $-U(CH_2)_vB-$ or a group convertible to $-U(CH_2)_vB-$ in which U is $-N(R^{30})-$, and L is suitable leaving group, to produce a compound of formula (I) wherein U is $-N(R^{30})-$;

d) reacting a compound of formula (VII), with a compound of formula X^aR^{11a} (IV),



(VII)

wherein R^{11a} is R¹¹ as defined in claim 1 or a group convertible to R¹¹, and X^a is -U(CH₂)_vB- or a group convertible to -U(CH₂)_vB- in which U is N(R³⁰)-, to produce a compound of formula (I) wherein d is 2 and U is -N(R³⁰)-; or

e) converting one compound of formula (I) into another compound of formula (I);

and thereafter, if required, subjecting the resulting compound to one or more of the following operations:

- i) removal of the protecting group R²,
- ii) conversion of X^aR^{11a} to XR¹¹,
- iii) conversion of BaR^{11a} to BR¹¹, and
- iv) conversion of the resultant compound of formula (I) into a pharmaceutically acceptable derivative thereof.

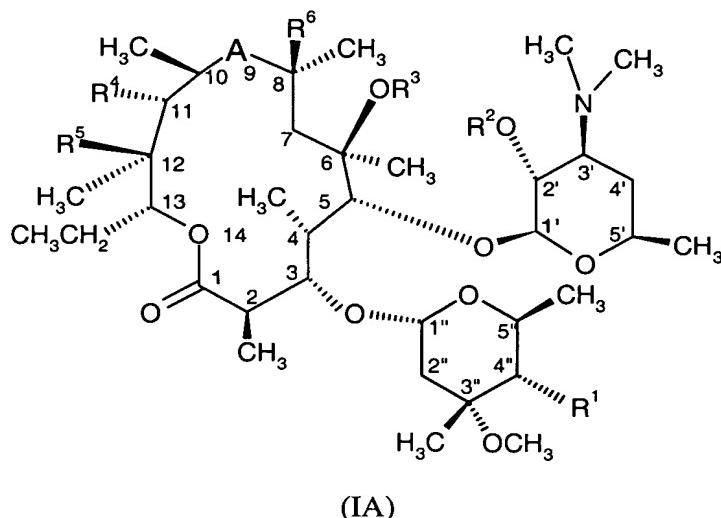
9. (Currently amended): A compound as claimed in claim 1 any one of claims 1 to 7 for use in therapy.

Claims 10 and 11 (Cancelled).

12. (Currently amended): A method for the treatment of the human or non-human animal body to combat microbial infection comprising administration to a body in need of such treatment of an effective amount of a compound as claimed in claim 1 any one of claims 1 to 7.

13. (Currently amended): A pharmaceutical composition comprising at least one compound as claimed in claim 1 any one of claims 1 to 7 in association with a pharmaceutically acceptable excipient, diluent and/or carrier.

14. (Original): A compound of formula (IA)



wherein

A is a bivalent radical selected from $-C(O)-$, $-C(O)NH-$, $-NHC(O)-$, $-N(R^7)-CH_2-$, $-CH_2-N(R^7)-$, $-CH(NR^8R^9)-$ and $-C(=NR^{10})-$;

R^1 is $-OC(O)(CH_2)_dXR^{11}$;

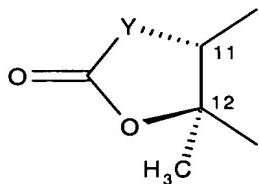
R^2 is hydrogen or a hydroxyl protecting group;

R^3 is hydrogen, C₁₋₄alkyl, or C₃₋₆alkenyl optionally substituted by 9 to 10 membered fused bicyclic heteroaryl;

R^4 is hydroxy, C₃₋₆alkenyloxy optionally substituted by 9 to 10 membered fused bicyclic heteroaryl, or C₁₋₆alkoxy optionally substituted by C₁₋₆alkoxy or $-O(CH_2)_eNR^7R^{12}$,

R^5 is hydroxy, or

R^4 and R^5 taken together with the intervening atoms form a cyclic group having the following structure:



wherein Y is a bivalent radical selected from $-CH_2-$, $-CH(CN)-$, $-O-$, $-N(R^{13})-$ and $-CH(SR^{13})-$;

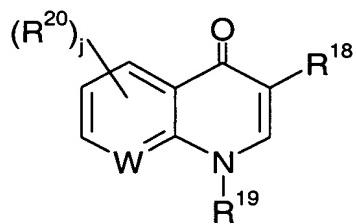
R^6 is hydrogen or fluorine;

R^7 is hydrogen or C₁₋₆alkyl;

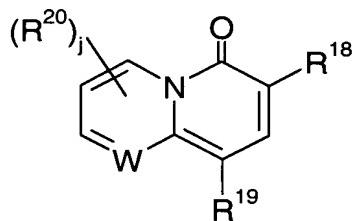
R⁸ and R⁹ are each independently hydrogen, C₁₋₆alkyl, -C(=NR¹⁰)NR¹⁴R¹⁵ or -C(O)R¹⁴, or

R⁸ and R⁹ together form =CH(CR¹⁴R¹⁵)faryl, =CH(CR¹⁴R¹⁵)fheterocyclyl, =CR¹⁴R¹⁵ or =C(R¹⁴)C(O)OR¹⁴, wherein the alkyl, aryl and heterocyclyl groups are optionally substituted by up to three groups independently selected from R¹⁶; R¹⁰ is -OR¹⁷, C₁₋₆alkyl, -(CH₂)_garyl, -(CH₂)_gheterocyclyl or -(CH₂)_hO(CH₂)_iOR⁷, wherein each R¹⁰ group is optionally substituted by up to three groups independently selected from R¹⁶;

R¹¹ is a heterocyclic group having the following structure:



or



R¹² is hydrogen or C₁₋₆alkyl;

R¹³ is hydrogen or C₁₋₄alkyl substituted by a group selected from optionally substituted phenyl, optionally substituted 5 or 6 membered heteroaryl and optionally substituted 9 to 10 membered fused bicyclic heteroaryl;

R¹⁴ and R¹⁵ are each independently hydrogen or C₁₋₆alkyl;

R¹⁶ is halogen, cyano, nitro, trifluoromethyl, azido, -C(O)R²¹, -C(O)OR²¹, -OC(O)R²¹, -OC(O)OR²¹, -NR²²C(O)R²³, -C(O)NR²²R²³, -NR²²R²³, hydroxy, C₁₋₆alkyl, -S(O)_kC₁₋₆alkyl, C₁₋₆alkoxy, -(CH₂)_maryl or -(CH₂)_mheteroaryl, wherein the alkoxy group is optionally substituted by up to three groups independently selected from -NR¹⁴R¹⁵, halogen and -OR¹⁴, and the aryl and heteroaryl groups are

optionally substituted by up to five groups independently selected from halogen, cyano, nitro, trifluoromethyl, azido, -C(O)R²⁴, -C(O)OR²⁴, -OC(O)OR²⁴, -NR²⁵C(O)R²⁶, -C(O)NR²⁵R²⁶, -NR²⁵R²⁶, hydroxy, C₁₋₆alkyl and C₁₋₆alkoxy; R¹⁷ is hydrogen, C₁₋₆alkyl, C₃₋₇cycloalkyl, C₃₋₆alkenyl or a 5 or 6 membered heterocyclic group, wherein the alkyl, cycloalkyl, alkenyl and heterocyclic groups are optionally substituted by up to three substituents independently selected from optionally substituted 5 or 6 membered heterocyclic group, optionally substituted 5 or 6 membered heteroaryl, -OR²⁷, -S(O)_nR²⁷, -NR²⁷R²⁸, -CONR²⁷R²⁸, halogen and cyano;

R¹⁸ is hydrogen, -C(O)OR²⁹, -C(O)NHR²⁹ or -C(O)CH₂NO₂;

R¹⁹ is hydrogen, C₁₋₄alkyl optionally substituted by hydroxy or C₁₋₄alkoxy, C₃₋₇cycloalkyl, or optionally substituted phenyl or benzyl;

R²⁰ is halogen, C₁₋₄alkyl, C₁₋₄thioalkyl, C₁₋₄alkoxy, -NH₂, -NH(C₁₋₄alkyl) or -N(C₁₋₄alkyl)₂;

R²¹ is hydrogen, C₁₋₁₀alkyl, -(CH₂)_paryl or -(CH₂)_pheteroaryl;

R²² and R²³ are each independently hydrogen, -OR¹⁴, C₁₋₆alkyl, -(CH₂)_qaryl or -(CH₂)_qheterocyclyl;

R²⁴ is hydrogen, C₁₋₁₀alkyl, -(CH₂)_raryl or -(CH₂)_rheteroaryl;

R²⁵ and R²⁶ are each independently hydrogen, -OR¹⁴, C₁₋₆alkyl, -(CH₂)_saryl or -(CH₂)_sheterocyclyl;

R²⁷ and R²⁸ are each independently hydrogen, C₁₋₄alkyl or C₁₋₄alkoxyC₁₋₄alkyl;

R²⁹ is hydrogen or C₁₋₆alkyl optionally substituted by up to three groups independently selected from halogen, C₁₋₄alkoxy, -OC(O)C₁₋₆alkyl and -OC(O)OC₁₋₆alkyl;

R³⁰ is hydrogen, C₁₋₄alkyl, C₃₋₇cycloalkyl, optionally substituted phenyl or benzyl, acetyl or benzoyl;

R³¹ is hydrogen or R²⁰, or R³¹ and R¹⁹ are linked to form the bivalent radical -O(CH₂)₂- or -(CH₂)_t;

X is -U(CH₂)_vB-;

U is -N(R³⁰)- and B is -O- or -S(O)_Z, or

U is -O- and B is -N(R³⁰)- or -O-;

W is -C(R³¹)- or a nitrogen atom;

d is 0 or an integer from 1 to 5;

e is an integer from 2 to 4;

f, g, h, m, p, q, r and s are each independently integers from 0 to 4;

i is an integer from 1 to 6;

j, k, n and z are each independently integers from 0 to 2;

t is 2 or 3;

v is an integer from 2 to 8;

or a pharmaceutically acceptable derivative thereof.